

## Notes on Arthur Harkins' Closing Remarks

Providing a context for technology in our daily lives: national competitiveness.  
Development of personal and social capacity. Advanced technologies of any kind.  
Citywide and regional competitiveness.

Driven by Ray Kurzweil. Someone who is always right after a while. Notion of Singularity: based on IT, nanotech molecular biology, and VR.

Era of Hunter-gatherer: 3M years

Agricultural Era: 13K years

Industrial Era: 200 years

Information Era 50 years

Knowledge and innovation Era: 20-30 yrs.

Technology pushes most of this

Next:

2010 - 2030 Era #5 Context Production: Singularity transitional generation

2030 - 2040 Era #6 Singularity Generation

2040 - 2050 Era #7 Chaordic Generation (attempt to manage chaos)

2050 - 2060 Era #8 Transhuman generation (on road to nonhuman, non-carbon)

2060 - ?? Era #9 Post-human Generation (will we think and act fast enough to partner with machines) Have to become more like them.

Wireless starts to "nanofy" individuals. What to think about this? Depends upon choices, circumstances, accidents.

### Scenarios for Two Heuristic Societies:

Legacy-driven society **vs** Innovation-driven society (gets rid of legacies)

Legacy-driven is over-planned, convention-driven, status/class-conscious; orderly; populated by child-like consumers who fear the Singularity and globalism.

Innovation-driven: self organizing, web supported, high-tech, populist, chaordic, populated by aggressive prosumers who embrace the Singularity and globalism

Each society take a different approach to information, innovation.

WiFi can be value-adding in many ways. Singles out individuals, singles out content.

Legacy society sits on most innovations, conservatively adopts some  
Innovation society tests all innovation, adopts many.

### Next 20 years:

#### Innovation society:

- Provides connectivity to everyone

- UWB wireless
  - Wear telecomputing gear, some have impacts
  - Software agents help to sort, rate and rank decisions
  - Kids can't fail school because software prevents failure.
- Distributed Competence software that is JIT (just in time), JAT (just ahead of time), SAT (strategically ahead of time)

Innovation society until 2025

Education isn't JIT, it's JAT/SAT with community and persona changes. Education moves from information downloading to knowledge generation. Flow of innovation and ideas from all sources including individual and collective cultures.

Combinatory knowledge and innovation to incorporate variety generated by the population. Institutions in support of continuous innovation. Education moves from information downloading to knowledge generation. Knowledge Generation linked to innovation because that's where the rewards are.

Software supports work performance of persons and communities at competency levels, and everyone uses the software for innovation ... but differently. Work and non-work blend in this society.

### **Legacy Society:**

Legacy society looks rigid and inefficient. Many people appear to avoid novelty and fear innovation. There is little concept of the innovative citizen, where innovation is measured and valued in all areas of life. Education appears to be preparing citizens for earlier Industrial & Information Ages.

Politicians and selected experts make narrow technology decisions, often with little regard for integrated scenarios of desirable futures.

Legacy Society years 2005 - 2025:

Offers internet to everyone

Most internet services wired

Expert programs to help sort, rate and rank decisions for the privileged

- The poor plug along in their own cultures, nurtured by infantile mass media and paternalistic policy wonks/politicians.
- Education lags far behind change
- Instruction for the poor; and innovative for the well-off
- Knowledge is linked to innovation historically, not existentially or strategically
- Software threatens low-level brain work
- Software temporarily protects higher-performing persons in knowledge and innovation work.
- Many people avoid novelty and fear innovation

- There is little concept of the innovative citizen who measures and values innovation in all areas of life
- Education drills for the plebs in most public schools; leadership for the elites in private schools and some suburbs.

**Review:**

Those two types of society will fight each other for trying to modernize America. What you're really pushing is the transformation of American society. It's about goals and visions. That's worth spending time on. That's worth going for grants.

Needed: Routine tech-supported innovation

Vision

Self-management

Cognitive and emotional tools

Sharing diverse visions & skills

Paradigms building from what works:

- Networkers
- Self-organizing skills
- Strategic living skills
- Global wide

Needs serious strategies:

- Learning organizations
- Continuous flow of innovations
- Personal growth of all citizens
- Welcome the innovation society

**WHAT CAN BE DONE?**

Overview by Service Category: in political, legal, economic and leadership support:

Open-sourcing is the norm

Intelligence Amplification supports individuals and collectives

Government shrinks

The private sector competes to provide tax-supported services.

**In Technological support:**

- IA (intelligence amplification) and early AI (artificial intelligence) drive out dumb jobs and make not-so-smart people functionally competent.
- Equipment and software upgrades occur automatically through networked self-organizing systems. Self-Repairing self-generating society.

**In Parenting and Human Services support:**

- IA and early AI protect children, the elderly, from predators and incompetents.
- Robotic people surrogates fill in when human workers aren't present (Electric

Grandparents, Virtual Friends, etc.)

**Neighborhood and Community support:**

- Housing stock is built with new nanotech at \$12 per sq. foot. Proving upper middle class home quality for everyone.
- Communities are formed of nurturing artificial and human life.

**Criminal Justice and Anticipatory Justice support:**

- Crimes are spotted immediately and perpetrators are enclosed or immobilized.
- Incarcerations are minimized through new tracking and restraining tech

**Food , Water, Housing Transport, Energy support:**

- Disaster reaction is balanced by disaster anticipation. Your house should tell you to head to the basement.
- Exact measure of life support systems are continuously tracked and problems fixed within fractions of the 2005 time.

**Health and Medicine support:**

Death becomes more an option, less a certainty.

Cyborg are the norm in advanced societies.

Children are precious resources to be improved, not merely kept health.

**Education and Media support:**

- Media and education systems are the same.
- Education is personalized and 24/7.

**Personal Imaging and Vision support:**

- Individuals are the windows on society instead of the reverse.
- Mass individualism replaces mass society.

Personal and social capital development.

Mode III knowledge is produced by everyone.

Society enables Mode IV knowledge production to assist Mode III sources.

A Reminder:

Societies have experienced Eras 0 - 4 and now have to prepare for Eras 5 - 9

**Ties to this conference:**

Wireless is just one tool

UWB will be a boom

IA and AI will permit self organizing human companion systems

Nanotech, biomolecular tech and VR will drive the singularity

Implication for Americans:

- Requires vision and leadership
- Collaboration with world leaders

- Debunking superiority myths
- Constructing counter-programming to Lake Wobegon myth (legacy thinking)
- Erasing rural/urban dualisms
- Erasing dumb/smart dualisms
- Leading in 21st Century Mode III/IV knowledge production.

### **Where to Start?**

- Leapfrog the high-speed Korean wireless lead
- Turn half of all classrooms to research labs
- Clone a human
- Leapfrog Japanese robotics advantage
- Go to Moon and Mars

And if we don't?

Hello to legacy society

Say goodbye to your kids' futures as improvements